

IN THE SPECIFICATION

Please amend the specification by inserting the following equation at page 34, after line 10. In accordance with the U.S. Patent and Trademark Office's rules for Revised Format of Amendments, the Amendment to the specification is presented as a replacement paragraph marked up to show changes made relative to the immediate prior version.

[00125] In operation of the sputter deposition magnetron source, a sputter gas such as argon is injected in the vicinity of magnetron target to a partial pressure typically ranging from 5×10^{-4} to 5×10^{-3} Torr. The DC or AC voltage is applied to the magnetron target to start sputtering of the target material. The sputter flux will be partially ionized by the magnetron and/or cathodic arc plasma, and trapped by the focusing and deflecting magnetic fields of the plasma duct. Diffusion of ionized metal vapor or sputter metal-gaseous plasma in the direction transversal to the magnetic force lines in a plasma guide is given by

$$-D_{\perp} \propto D/[1 + (\omega_e \tau_e)^2] \propto D/B^n, (5) --$$

where D is diffusion coefficient of metal vapor or sputter plasma in the absence of a magnetic field; n is a parameter ranging from 1 to 2. Equation (5) shows that diffusion flow of metal vapor or sputter plasma in the plasma duct along the magnetic force lines exceeds the diffusion flux in the direction transversal to the magnetic force lines (i.e. toward the walls of the plasma duct) by a factor of B^n . This can be used for estimating the effectiveness of transporting of metal vapor or sputter plasma along the curvilinear magnetic field created by the focusing and deflecting magnetic coils 21 of the filtered arc plasma duct.